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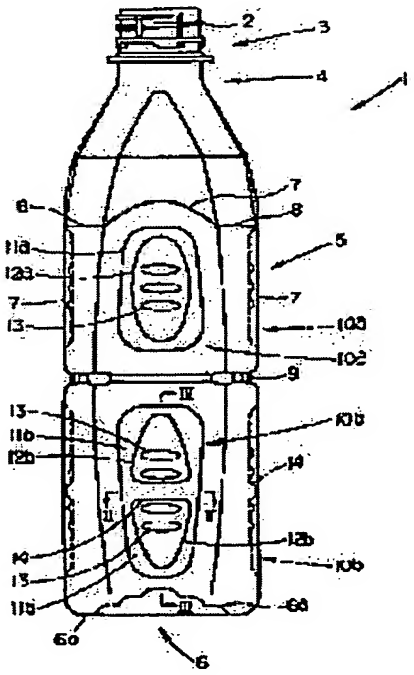
(54) SYNTHETIC RESIN CONTAINER

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a synthetic resin container wherein a recess is not likely to cause creep strain even if containers are stacked and stored in numerous stages and the creep strain may not cause permanent deformation.

SOLUTION: The synthetic resin container comprises a mouth 3, a neck 4 connected to the mouth 3 increasing in diameter downwardly from the mouth 3, a body 5 connected to the neck 4 including an approximately rectangular cross sectional face and a bottom 6 connected to the body 5 for constituting a ground part 6b. Recesses 10a, 10b formed of parts of a surface 7 of the body 5 recessed inside the container for absorbing reduced pressure inside the container are provided. A rib 14 laid across the recess 10b is provided.



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CLAIMS

[Claim(s)]
[Claim 1]Regio oralis which equips a periphery with a thread part.
A neck which turn caudad and whose diameter connect to this regio oralis, and is expanded from this regio oralis.
A drum section which connects with this neck and is provided with a cross section of an approximately quadrangle.
A crevice which consists of a pars basilaris ossis occipitalis which connects with this drum section and constitutes a grounding part, is absorbed in an inside of a container, is formed in a part of surface of this drum section, and absorbs decompression inside a container.
It is the synthetic resin made container provided with the above, and a rib which crosses said crevice was provided.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to a synthetic resin made container provided with the crevice which it has a cross section of an approximately quadrangle, and a drum section is absorbed in the inside of a container, is formed in a part of surface of this drum section, and absorbs the decompression inside a container.
[0002]
[Description of the Prior Art]Conventionally, as containers, such as coffee and soy sauce, it consists of polyethylene terephthalate resin etc. and the synthetic resin made container 15 provided with the regio oralis 3 which equips a periphery with the thread part 2, the neck 4, the drum section 5, and the pars basilaris ossis occipitalis 6 that constitutes sidewall is known like **4**.
[0003]The drum section 5 of said synthetic resin made container 15 consists of the panel surface 7 and the connecting face 8 where the width allotted between the panel surfaces 7 and 7 is narrow, and the cross section has an approximately quadrangle according to the panel surface 7. Although the cross section of the drum section 5 forms the octagon in the actual condition according to the panel surface 7 and the connecting face 8, since **** width is narrow compared with the panel surface 7, the connecting face 8 calls the shape of this cross section an "abbreviation quadrangle" on these specifications. Camfering may be performed to the terminal area of the panel surface 7 and the connecting face 8.
[0004]The panel surface 7 is separated up and down by the circumferential groove 9 which covered the perimeter and was provided in the approximately center part of the drum section 5, and the upper part crevice 10a which is absorbed in the inside of a container, is formed in a part of panel surface 7, respectively, and absorbs the decompression inside a container, and the larger bottom crevice 10b than the crevice 10a are formed.
[0005]In the synthetic resin vessel 15 of said composition, since said contents will cause oxygen and the chemical reaction in a container and oxygen will be consumed if it is sealed by the cap (not shown) screwed on the thread part 2 after carrying out ordinary temperature

restoration of the contents, such as said coffee and soy sauce, by an aseptic condition, the inside of a container is decompressed. If said soft drink is cooled after seal also when high temperature filling is carried out for sterilization of the soft drink which does not contain carbonic acid, such as barley tea, oolong tea, and mineral water, in the synthetic resin vessel 15, the inside of a container will be decompressed like said coffee, soy sauce, etc. Since said crevices 10a and 10b are established in the panel surface 7 at this time as for the synthetic resin vessel 15, said decompression can be absorbed and modification of the container by this decompression can be avoided.

[0006]However, reduction of the metsuke amount of the synthetic resin vessel 15 is desired for reduction of material cost, and if said contents are accumulated on multistage after restoration and seal, such a synthetic resin vessel 15 in recent years, The synthetic resin vessel 15 of the lower berth causes during storage the creep modification which said bottom crevice 10b reverses to the method of the outside of a container with the weight of the container 15 of the upper row, and this modification has the inconvenience of becoming the permanent deformation which is not restored also after load is removed.

[0007]

[Problem(s) to be Solved by the Invention]This inconvenience is canceled, after contents restoration, even if it puts and stores in multistage, a crevice cannot cause creep modification easily, and this invention aims to let this creep modification provide the synthetic resin made container which does not cause permanent deformation.

[0008]

[Means for Solving the Problem]In order to attain this purpose, a synthetic resin made container of this invention, Regio oralis, a neck which turn caudad and whose diameter connect to this regio oralis, and is expanded from this regio oralis, and a drum section which connects with this neck and is provided with a cross section of an approximately quadrangle, A rib which crosses said crevice was provided in a synthetic resin made container provided with a crevice which consists of a pars basilaris ossis occipitalis which connects with this drum section and constitutes a grounding part, is absorbed in an inside of a container, is formed in a part of surface of this drum section, and absorbs decompression inside a container.

[0009]Since a rib which crosses said crevice is provided according to the synthetic resin made container of this invention, when it put and stores in multistage after contents restoration and weight of a container of the upper row is applied to a synthetic resin made container of the lower berth, this crevice cannot cause creep modification easily. Since a rib which crosses said crevice is provided according to the synthetic resin made container of this invention, even if this crevice causes turning over by horizontal compressive load, it can restore modification easily by removing load.

[0010]

[Embodiment of the Invention]Next, it explains in more detail about an embodiment of the invention, referring to an attached drawing. As for the front view of the synthetic resin made

container of this embodiment, and drawing 2, the II-II line sectional view of drawing 1 and drawing 3 of drawing 1 are the III-III line sectional views of drawing 1.

[0011]The synthetic resin made container 1 of this embodiment is provided with the following.

Regio oralis 3 which equips a periphery with the thread part 2 like **1**.

Neck 4.

Drum section 5.

The pars basilaris ossis occipitalis 6 which constitutes sidewall.

The drum section 5 is allotted between the panel surface 7 and the panel surface 7 and 7, and consists of the connecting face 8 where **** width is narrow compared with the panel surface 7, and the cross section has an approximately quadrangle according to the panel surface 7.

[0012]Said neck 4 is connected to the regio oralis 3, from the regio oralis 3, turn caudad, and the diameter is expanded, and the cross section changes from a round shape to an approximately quadrangle gradually. Said pars basilaris ossis occipitalis 6 is provided with the bulged part 6a which bulges inside a container, and the even sidewall 6b is formed in the peripheral part of the bulged part 6a.

[0013]The panel surface 7 is separated up and down by the circumferential groove 9 which covered the perimeter and was provided in the approximately center part of the drum section 5, respectively it is absorbed in the inside of a container, a part of panel surface 7 is formed, and the upper part crevice 10a which absorbs the decompression inside a container, and the bigger bottom crevice 10b than the crevice 10a are formed. Said crevices 10a and 10b consist of the slant faces 11a and 11b absorbed in the inside of a container from the panel surface 7, and the bottoms 12a and 12b surrounded by the slant faces 11a and 11b, and two or more 1st ribs 13 that bulge in the method of the outside of a container further are formed in the bottoms 12a and 12b. In the bottom 12b of the bigger bottom crevice 10b than the crevice 10a, it bulges in the method of the outside of a container in the approximately center, and the 2nd rib 14 that crosses the crevice 10b is formed, and the crevice 10b is bisected by the 2nd rib 14.

[0014]The 1st rib 13 is formed in the bottom 12a of the upper part crevice 10a at the four bottoms 12b of three pieces and the bottom crevice 10b, and is allocated in two upper and lower sides of the 2nd rib 14 at a time on the bottom 12b. As shown in drawing 2 and drawing 3, the 2nd rib 14 is larger than the 1st rib 13, and the peak is located in an inner direction more slightly than the panel surface 7.

[0015]Next, the drum section 5 of the synthetic resin made container 1 which carried out full injection restoration of the mineral water by ordinary temperature restoration, and screwed on and sealed the cap to the thread part 2 in the upper part of the circumferential groove 9. It inserted from both sides with the compression test machine, and horizontal compression was carried out, and with the internal pressure of this horizontal compression, compressive force (kgf) when the crevices 10a and 10b carried out turning over to the method of the

outside of a container was measured, and it was considered as the index of creep resistance modification nature. A synthetic resin made container is considered to excel in creep resistance modification nature, so that the value of said compressive force is large. About five sample offering numbers, the stability of modification when said compressive force and this compressive force are removed is shown in Table 1.

[0016]The conventional synthetic resin made container 15 (comparative example 1) shown in drawing 4 and drawing 5 for comparison, Horizontal compression was carried out with the compression test machine like said synthetic resin made container 1 about what improved the synthetic resin made container 15 in part (comparative example 2), drawing 6 or the synthetic resin made container 18 (comparative example 3) of **8**, drawing 9, or the synthetic resin made container 19 (comparative example 4) of **11**. About five sample offering numbers, the stability of modification when compressive force (kgf) and this compressive force when the crevices 10a and 10b carried out turning over to the method of the outside of a container are removed is combined with Table 1, and the internal pressure of said horizontal compression shows it.

[0017]The synthetic resin made container 15 of the comparative example 1 is composition as the paragraph of the above "PRIOR ART" described. In more detail, the bottoms 12a and 12b of said crevices 10a and 10b are flat surfaces, and the rib 13 which bulges in the method of the outside of a container from the bottoms 12a and 12b is formed in the bottom 12a of the upper part crevice 10a at the five bottoms 12b of three pieces and the bottom crevice 10b. As shown in drawing 5 (a), the terminal area 16 of the slant face 11b and the bottom 12b intersects linear shape.

[0018]The synthetic resin made container of the comparative example 2 has the same composition as the synthetic resin made container 15 of the comparative example 1 except for the terminal area 17 of the slant face 11b and the bottom 12b being curved surface shape, as shown in drawing 5 (b).

[0019]The synthetic resin made container 18 of the comparative example 3 is the same composition as the synthetic resin made container 15 of the comparative example 1 except for constituting the width of the bottom 12b narrowly widely in the width of the slant face 11b of the bottom crevice 10b as compared with the synthetic resin made container 15, as shown in drawing 6 and drawing 7.

[0020]The synthetic resin made container 19 of the comparative example 4 is the same composition as the synthetic resin made container 15 of the comparative example 1 except for the bulged part 20 which, on the whole, bulged the center section of the bottom 12b of the bottom crevice 10b on the container outside being formed, as shown in drawing 9 thru/or drawing 11.

[0021]

[Table 1]

		実施形態	比較例１	比較例２	比較例３	比較例４
反転変形時の圧縮力	試料１	１６．４	７．５	６．８	７．０	１０．０
	２	１５．０	７．８	７．５	７．４	１０．３
	３	１８．８	７．９	７．１	７．５	１０．０
	４	１５．８	８．２	７．５	７．６	１０．６
	５	１６．６	７．９	７．４	７．５	９．８
	平　均	１６．５	７．９	７．３	７．４	１０．１
復　元　性		○	×	×	×	×

反転変形時の圧縮力：ｋｇｆ

復元性：○…圧縮力を取り除くと復元する

×…圧縮力を取り除いても復元しない（永久変形）

[0022]As shown in Table 1, turning over restores the synthetic resin made container 1 of this embodiment by **** which removes the load (compressive force) used as the cause even if the compressive force at the time of turning over is large and turning over arises.

[0023]To the synthetic resin made container 1 of this embodiment, with the conventional synthetic resin made container 15 of the comparative example 1, turning over arises in about 50% of compressive force of the synthetic resin made container 1, and even if it removes the load (compressive force) used as the cause, turning over is not restored. Turning over arises in compressive force equivalent to the conventional synthetic resin made container 15 of the comparative example 1, and the synthetic resin made container of the comparative example 2 and the synthetic resin made container 18 of the comparative example 3 do not restore turning over, even if it removes the load (compressive force) used as the cause.

[0024]The synthetic resin made container 19 of the comparative example 4 of the compressive force which turning over produces is larger than the conventional synthetic resin made container 15 of the comparative example 1, and at this point, although improved, if turning over arises, even if it will remove the load (compressive force) used as that cause, it does not restore turning over.

[0025]Therefore, according to the synthetic resin made container 1 of this embodiment, while the rigidity to turning over is improved remarkably, it is clear from Table 1 to have the outstanding stability.

[0026]In this embodiment, the 2nd rib 14 is formed so that the bigger bottom crevice 10b may be crossed, but may be provided in the upper part crevice 10a, and may be provided in both crevices 10a and 10b.

[Translation done.]

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]The front view showing one embodiment of the synthetic resin made container of this invention.
[Drawing 2]The II-II line sectional view of drawing 1.
[Drawing 3]The III-III line sectional view of drawing 1.
[Drawing 4]The front view showing an example of the conventional synthetic resin made container.
[Drawing 5]The V-V line sectional view of drawing 4.
[Drawing 6]The front view showing one comparative example of a synthetic resin made container.
[Drawing 7]The VII-VII line sectional view of drawing 6.
[Drawing 8]The VIII-VIII line sectional view of drawing 6.
[Drawing 9]The front view showing other comparative examples of a synthetic resin made container.
[Drawing 10]The X-X line sectional view of drawing 9.
[Drawing 11]The XI-XI line sectional view of drawing 9.
[Description of Notations]
1 [-- A neck and 5 / -- A drum section, 6 / -- A pars basilaris ossis occipitalis and 7 / -- The surface of a drum section, and 10a, 10b / -- A crevice and 14 / -- Rib which crosses a crevice.] -- A synthetic resin made container and 2 -- A thread part and 3 -- The regio oralis and 4

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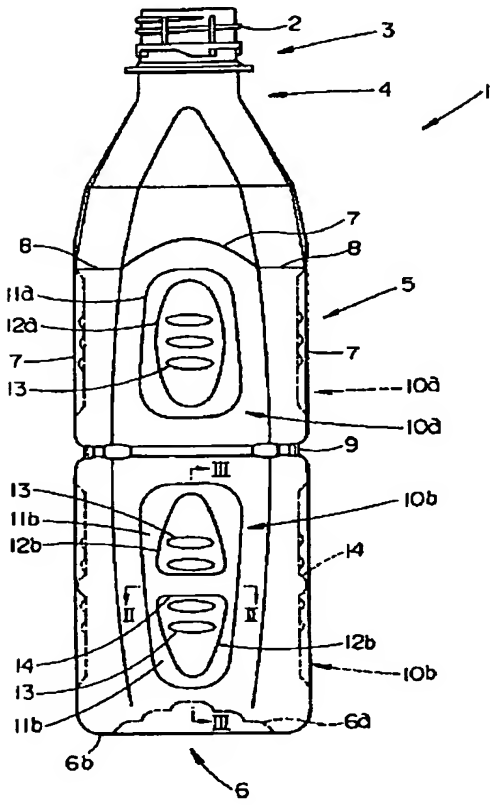
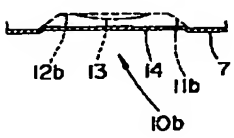
DRAWINGS

[Drawing 1]
FIG. 1

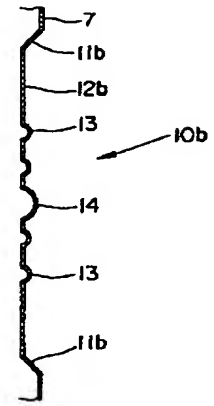


[Drawing 2]
FIG. 2



[Drawing 3]

FIG. 3



[Drawing 5]

FIG. 5(a)

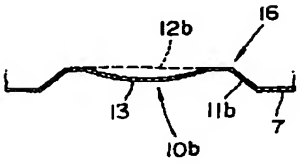
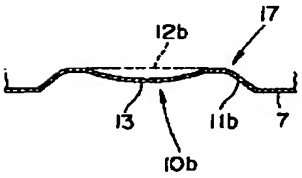
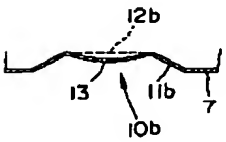


FIG. 5(b)



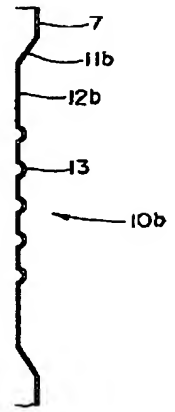
[Drawing 7]

FIG. 7



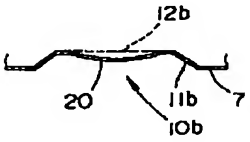
[Drawing 8]

FIG. 8



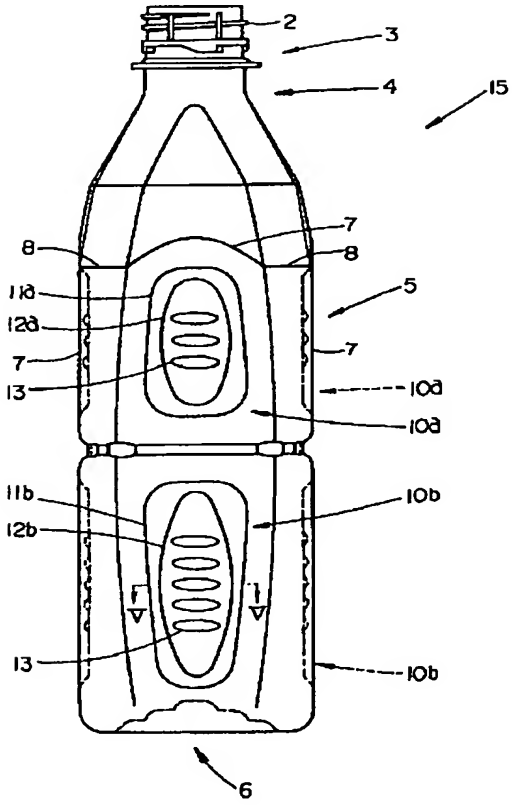
[Drawing 10]

FIG.10



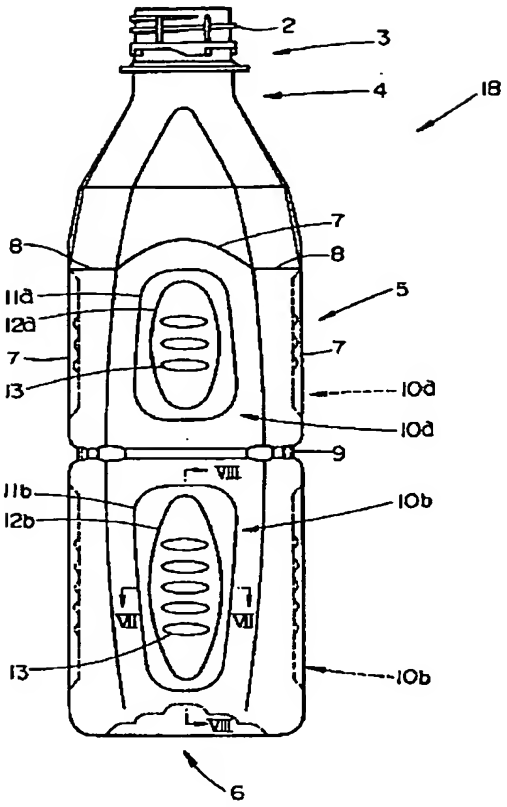
[Drawing 4]

FIG. 4



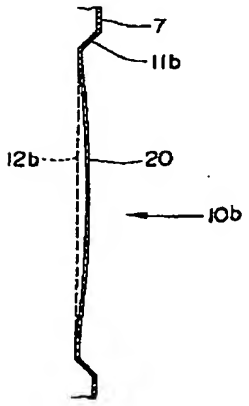
[Drawing 6]

FIG. 6



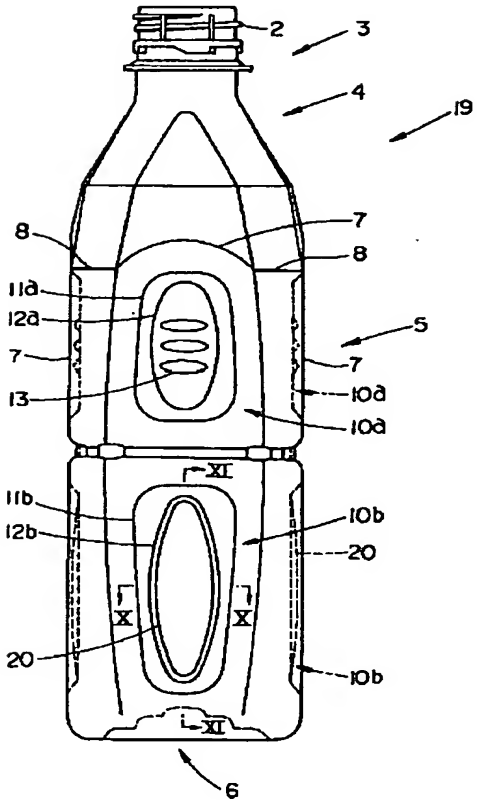
[Drawing 11]

FIG. 11



[Drawing 9]

FIG. 9



[Translation done.]

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(43)公開日　平成11年(1999)７月６日

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	1/42			1/42	
// Ｂ６５Ｄ	1/18			1/18	

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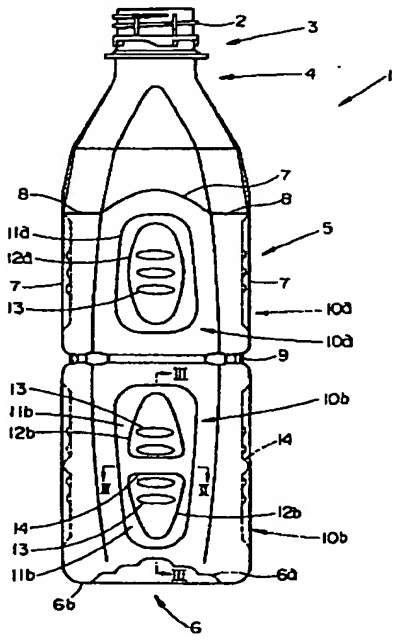
(54)【発明の名称】　合成樹脂製容器

(57)【要約】
【課題】内容物充填後、多段に積み重ねて貯蔵しても凹部がクリープ変形を起こしにくく、該クリープ変形が永久変形を起こさない合成樹脂製容器を提供する。
【解決手段】口部３と、該口部３に接続し該口部３から下方に向けて拡径する首部４と、該首部４に接続し略四角形の横断面を備える胴部５と、該胴部５に接続して接地部６ｂを構成する底部６とからなる。胴部５の表面７の一部を容器内部に没入形成され、容器内部の減圧を吸収する凹部１０ａ，１０ｂを備える。凹部１０ｂを横断するリブ１４を設ける。

FIG. 1



【特許請求の範囲】

【請求項１】外周にねじ部を備える口部と、該口部に接続し該口部から下方に向けて拡径する首部と、該首部に接続し略四角形の横断面を備える胴部と、該胴部に接続して接地部を構成する底部とからなり、該胴部の表面の一部を容器内部に没入して形成され容器内部の減圧を吸収する凹部を備える合成樹脂製容器において、前記凹部を横断するリブを設けたことを特徴とする合成樹脂製容器。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は、胴部が略四角形の横断面を備え、該胴部の表面の一部を容器内部に没入して形成され容器内部の減圧を吸収する凹部を備える合成樹脂製容器に関するものである。

【０００２】

【従来の技術】従来、コーヒー、醤油等の容器として、ポリエチレンテレフタレート樹脂等からなり、図４示のように、外周にねじ部２を備える口部３と、首部４と、胴部５と、接地面を構成する底部６とを備える合成樹脂製容器１５が知られている。

【０００３】前記合成樹脂製容器１５の胴部５は、パネル面７と、パネル面７，７間に配せられた幅の狭い接続面８とからなり、その横断面はパネル面７により略四角形になっている。胴部５の横断面は、パネル面７と接続面８とにより実際には八角形を形成しているが、接続面８はパネル面７に較べて極く幅が狭いので、本明細書では該横断面の形状を「略四角形」と称する。尚、パネル面７と接続面８との接続部は面取りが施されていてもよい。

【０００４】パネル面７は、胴部５の略中央部に全周に亘って設けられた周溝９により上下に隔てられ、それぞれパネル面７の一部を容器内部に没入して形成され容器内部の減圧を吸収する上側凹部１０ａと、凹部１０ａより大きい下側凹部１０ｂとが設けられている。

【０００５】前記構成の合成樹脂容器１５では、前記コーヒー、醤油等の内容物を無菌状態で常温充填した後、ねじ部２に螺着されるキャップ（図示せず）により密封されると、前記内容物が容器内の酸素と化学反応を起こして酸素が消費されるために、容器内部が減圧される。また、合成樹脂容器１５に、麦茶、ウーロン茶、ミネラルウォーター等のような炭酸を含まない清涼飲料を殺菌のために高温充填したときにも、密封後に前記清涼飲料が冷却されると、前記コーヒー、醤油等と同様に、容器内部が減圧される。このとき、合成樹脂容器１５は、パネル面７に前記凹部１０ａ，１０ｂが設けられているので、前記減圧を吸収して該減圧による容器の変形を避けることができる。

【０００６】しかしながら、近年、原料コストの低減のために合成樹脂容器１５の目付量の低減が望まれ、この

ような合成樹脂容器１５を、前記内容物を充填、密封後、多段に積み重ねておくと、貯蔵中に下段の合成樹脂容器１５が上段の容器１５の重量により前記下側凹部１０ｂが容器外方に反転するクリープ変形を起こし、該変形は荷重が除かれた後にも復元しない永久変形になるという不都合がある。

【０００７】

【発明が解決しようとする課題】本発明は、かかる不都合を解消して、内容物充填後、多段に積み重ねて貯蔵しても凹部がクリープ変形を起こしにくく、該クリープ変形が永久変形を起こさない合成樹脂製容器を提供することを目的とする。

【０００８】

【課題を解決するための手段】かかる目的を達成するために、本発明の合成樹脂製容器は、口部と、該口部に接続し該口部から下方に向けて拡径する首部と、該首部に接続し略四角形の横断面を備える胴部と、該胴部に接続して接地部を構成する底部とからなり、該胴部の表面の一部を容器内部に没入して形成され容器内部の減圧を吸収する凹部を備える合成樹脂製容器において、前記凹部を横断するリブを設けたことを特徴とする。

【０００９】本発明の合成樹脂製容器によれば、前記凹部を横断するリブが設けられているので、内容物充填後、多段に積み重ねて貯蔵し、下段の合成樹脂製容器に上段の容器の重量がかかったときに、該凹部がクリープ変形を起こしにくい。また、本発明の合成樹脂製容器によれば、前記凹部を横断するリブが設けられているので、該凹部は横圧縮荷重により反転変形を起こしても、荷重を取り除くことにより、容易に変形を復元することができる。

【００１０】

【発明の実施の形態】次に、添付の図面を参照しながら本発明の実施の形態についてさらに詳しく説明する。図１は本実施形態の合成樹脂製容器の正面図、図２は図１のＩＩ－ＩＩ線断面図、図３は図１のＩＩＩ－ＩＩＩ線断面図である。

【００１１】本実施形態の合成樹脂製容器１は、図１示のように、外周にねじ部２を備える口部３と、首部４と、胴部５と、接地面を構成する底部６とを備えている。胴部５はパネル面７と、パネル面７，７間に配せられパネル面７に較べて極く幅が狭い接続面８とからなり、その横断面は、パネル面７により略四角形になっている。

【００１２】前記首部４は、口部３に接続し、口部３から下方に向けて拡径すると共に、その横断面が次第に円形から略四角形に変化する。また、前記底部６は、容器内部に膨出する膨出部６ａを備え、膨出部６ａの外周部に平らな接地面６ｂが形成されている。

【００１３】パネル面７は、胴部５の略中央部に全周に亘って設けられた周溝９により上下に隔てられ、それぞ

れパネル面７の一部を容器内部に没入して形成され、容器内部の減圧を吸収する上側凹部１０ａと、凹部１０ａより大きな下側凹部１０ｂとが設けられている。前記凹部１０ａ，１０ｂは、パネル面７から容器内部に没入する斜面１１ａ，１１ｂと、斜面１１ａ，１１ｂに囲まれた底面１２ａ，１２ｂとからなり、底面１２ａ，１２ｂにはさらに容器外方に膨出する複数の第１リブ１３が設けられている。また、凹部１０ａより大きな下側凹部１０ｂの底面１２ｂには、その略中央に容器外方に膨出すると共に凹部１０ｂを横断する第２リブ１４が設けられ、凹部１０ｂが第２リブ１４により二分されている。

【００１４】第１リブ１３は、上側凹部１０ａの底面１２ａに３個、下側凹部１０ｂの底面１２ｂに４個設けられ、底面１２ｂでは第２リブ１４の上下に２個ずつ配設されている。また、図２及び図３に示す様に、第２リブ１４は第１リブ１３より大きく、その頂点はパネル面７よりもわずかに内方に位置している。

【００１５】次に、ミネラルウォーターを常温充填により満注充填して、ねじ部２にキャップを螺着して密封した合成樹脂製容器１の胴部５を周溝９の上方で、圧縮試験器により両側から挟んで横圧縮し、該横圧縮の内圧により、凹部１０ａ，１０ｂが容器外方に反転変形したときの圧縮力（ｋｇｆ）を測定して、耐クリープ変形性の指標とした。合成樹脂製容器は、前記圧縮力の値が大きいほど、耐クリープ変形性に優れているものと考えられる。供試本数５本について、前記圧縮力及び該圧縮力を取り除いたときの変形の復元性を表１に示す。

【００１６】比較のために、図４及び図５に示す従来の合成樹脂製容器１５（比較例１）、合成樹脂製容器１５を一部改良したもの（比較例２）、図６乃至図８示の合成樹脂製容器１８（比較例３）、図９乃至図１１示の合＊成樹脂製容器１９（比較例４）について、前記合成樹脂製容器１と同様にして圧縮試験器により横圧縮した。供試本数５本について、前記横圧縮の内圧により、凹部１０ａ，１０ｂが容器外方に反転変形したときの圧縮力（ｋｇｆ）及び該圧縮力を取り除いたときの変形の復元性を表１に併せて示す。

【００１７】比較例１の合成樹脂製容器１５は、前記「従来の技術」の項で述べたとおりの構成である。さらに詳しくは、前記凹部１０ａ，１０ｂの底面１２ａ，１２ｂは平面となっており、底面１２ａ，１２ｂから容器外方に膨出するリブ１３が、上側凹部１０ａの底面１２ａに３個、下側凹部１０ｂの底面１２ｂに５個設けられている。また、図５（ａ）に示す様に、斜面１１ｂと底面１２ｂとの接続部１６が直線状に交差している。

【００１８】比較例２の合成樹脂製容器は、図５（ｂ）に示す様に斜面１１ｂと底面１２ｂとの接続部１７が曲面状になっていることを除いて、比較例１の合成樹脂製容器１５と同一の構成となっている。

【００１９】また、比較例３の合成樹脂製容器１８は、図６及び図７に示すように、合成樹脂製容器１５に比較して下側凹部１０ｂの斜面１１ｂの幅を広く、底面１２ｂの幅を狭く構成されていることを除いて、比較例１の合成樹脂製容器１５と同一の構成である。

【００２０】また、比較例４の合成樹脂製容器１９は、図９乃至図１１に示すように、下側凹部１０ｂの底面１２ｂの中央部を全体的に容器外側に膨出させた膨出部２０が形成されていることを除いて、比較例１の合成樹脂製容器１５と同一の構成である。

【００２１】

【表１】

		実施形態	比較例１	比較例２	比較例３	比較例４
反転変形時の圧縮力	試料１	１６．４	７．５	６．８	７．０	１０．０
	２	１５．０	７．８	７．５	７．４	１０．３
	３	１８．８	７．９	７．１	７．５	１０．０
	４	１５．８	８．２	７．５	７．６	１０．６
	５	１６．６	７．９	７．４	７．５	９．８
	平　均	１６．５	７．９	７．３	７．４	１０．１
復　元　性		○	×	×	×	×

反転変形時の圧縮力：ｋｇｆ

復元性：○…圧縮力を取り除くと復元する

×…圧縮力を取り除いても復元しない（永久変形）

【００２２】表１のように、本実施形態の合成樹脂製容器１は、反転変形時の圧縮力が大きく、また反転変形が生じてもその原因となる荷重（圧縮力）を取り除くことにより、反転変形が復元する。

【００２３】本実施形態の合成樹脂製容器１に対して、比較例１の従来の合成樹脂製容器１５では、合成樹脂製

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容器１の約５０％の圧縮力で反転変形が生じ、その原因となる荷重（圧縮力）を取り除いても反転変形は復元しない。比較例２の合成樹脂製容器及び比較例３の合成樹脂製容器１８は比較例１の従来の合成樹脂製容器１５と同等の圧縮力で反転変形が生じ、その原因となる荷重（圧縮力）を取り除いても反転変形は復元しない。

【００２４】また、比較例４の合成樹脂製容器１９は、反転変形が生じる圧縮力は比較例１の従来の合成樹脂製容器１５より大きく、この点では改良されているものの、反転変形が生じるとその原因となる荷重（圧縮力）を取り除いても反転変形は復元しない。

【００２５】従って、表１から本実施形態の合成樹脂製容器１によれば、反転変形に対する剛性が著しく改善されているとともに、優れた復元性を備えていることが明らかである。

【００２６】尚、本実施形態では、第２リブ１４は、より大きな下側凹部１０ｂを横断する様に設けられているが、上側凹部１０ａに設けられてもよく、両方の凹部１０ａ，１０ｂに設けられていてもよい。

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【図面の簡単な説明】

【図１】本発明の合成樹脂製容器の一実施形態を示す正面図。

【図２】図１のＩＩ－ＩＩ線断面図。

【図３】図１のＩＩＩ－ＩＩＩ線断面図。

【図４】従来の合成樹脂製容器の一例を示す正面図。

【図５】図４のＶ－Ｖ線断面図。

【図６】合成樹脂製容器の一比較例を示す正面図。

【図７】図６のＶＩＩ－ＶＩＩ線断面図。

【図８】図６のＶＩＩＩ－ＶＩＩＩ線断面図。

【図９】合成樹脂製容器の他の比較例を示す正面図。

【図１０】図９のＸ－Ｘ線断面図。

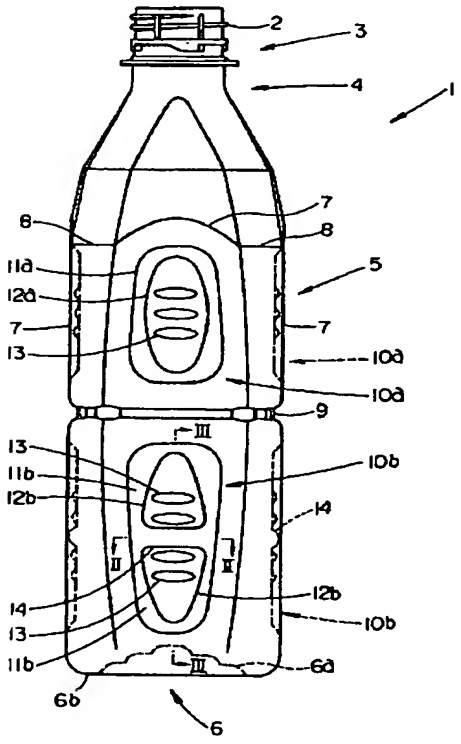
【図１１】図９のＸＩ－ＸＩ線断面図。

【符号の説明】

１…合成樹脂製容器、　２…ねじ部、　３…口部、　４…首部、　５…胴部、６…底部、　７…胴部の表面、　１０ａ，１０ｂ…凹部、　１４…凹部を横断するリブ。

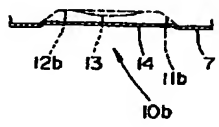
【図１】

FIG. 1



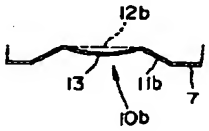
【図２】

FIG. 2



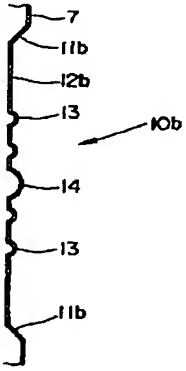
【図７】

FIG. 7



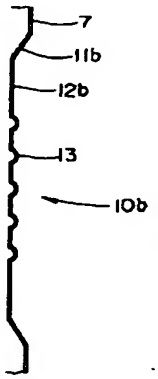
【図３】

FIG. 3



【図８】

FIG. 8



【図５】

FIG. 5(a)

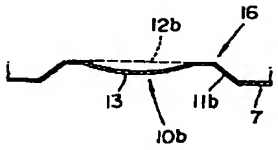
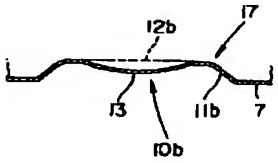
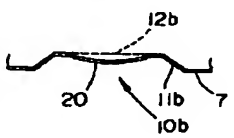


FIG. 5(b)



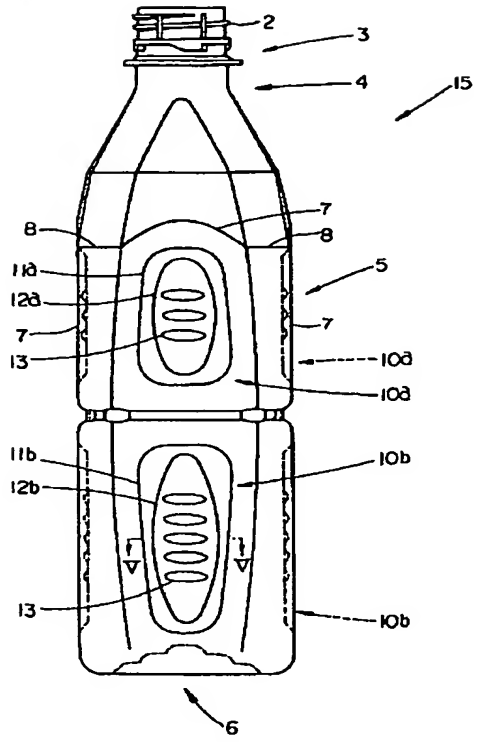
【図１０】

FIG.10



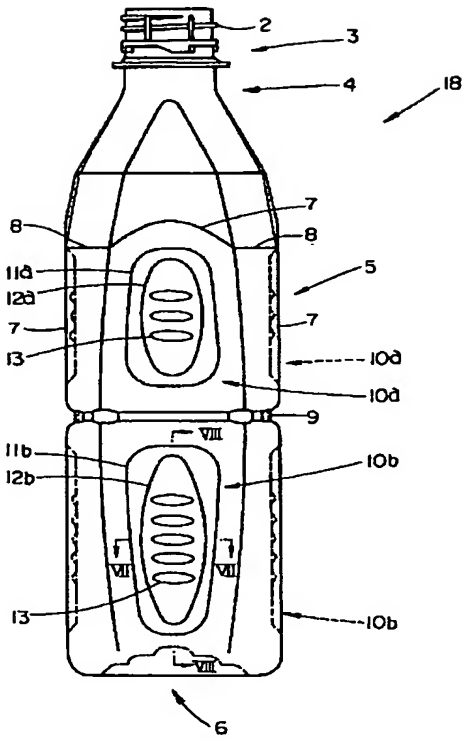
【図４】

FIG. 4



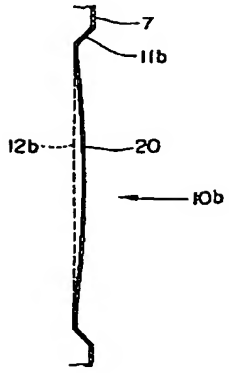
【図６】

FIG. 6



【図１１】

FIG. 11



【図９】

FIG. 9